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(30) Priority: **29.03.2011 IT AN20110040**

(54) **Intelligent rotor/stator system with energy recovery and energy recycling**

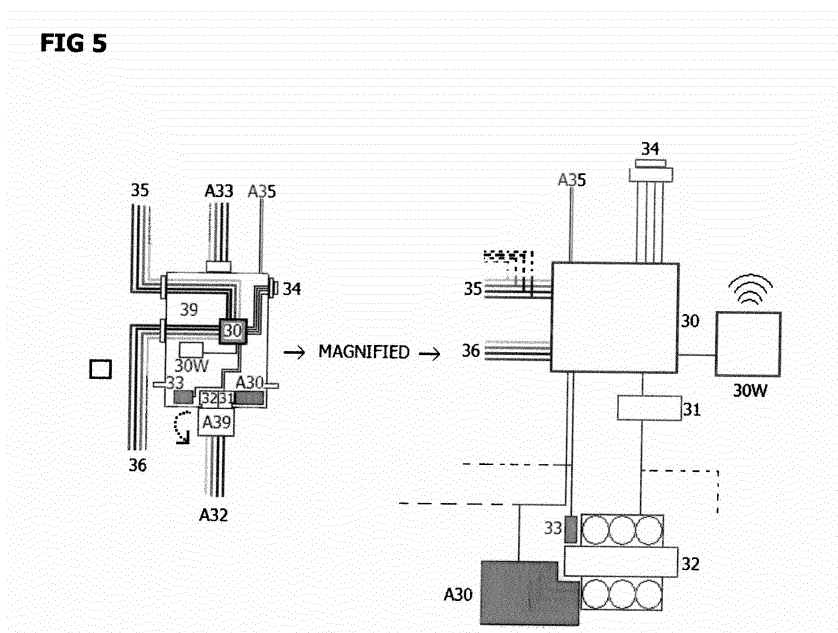
(57) The Invention is based on implementation of a Logic inside a Rotor/Stator device and/or a sensors and/or an actuators and/or an electronic devices connected to each other, which create a new family and a wide range of performance compared to those that this devices usually have

The main schematic (Fig5) shows a logic hardware like microprocessor or similar, one or more sensor (optional) one or more actuators (optional) one or more bi-directional communication ports (optional) one or more

device for recovery/management/storage of electric power obtained by Rotor kinetics energy conversion (optional).

This Invention gives the technology for the creation of a new family of intelligent electro-mechanical devices capable of SELF ADAPTIVE behavior, REAL TIME COMMUNICATION and AUTO-REPAIR of their operating parameters, to make available to other devices that are connected to them, the computational resources or the electrical power supply internally generated.

**FIG 5**





## EUROPEAN SEARCH REPORT

Application Number  
EP 12 00 2227

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	EP 0 331 828 A1 (YASKAWA DENKI SEISAKUSHO KK [JP]) 13 September 1989 (1989-09-13) * column 6 * * figure 1 *	1	INV. G05B19/042
X	HEIDENHAIN GmbH: "EnDat 2.2 - Bidirectional Interface for Position Encoders", Technical Information 30 November 2008 (2008-11-30), pages 1-20, XP002659570, Retrieved from the Internet: URL: <a href="http://www.heidenhain.in/fileadmin/pdb/media/img/383_942-25_EnDat_2-2_en.pdf">http://www.heidenhain.in/fileadmin/pdb/media/img/383_942-25_EnDat_2-2_en.pdf</a> [retrieved on 2011-09-20] * page 1 - page 3 *	1	
			TECHNICAL FIELDS SEARCHED (IPC)
			G05B
<p>1</p> <p><del>The present search report has been drawn up for all claims</del></p>			
Place of search The Hague		Date of completion of the search 27 August 2013	Examiner Bassi, Luca
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03.82 (P04C01)



Application Number

EP 12 00 2227

**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

**LACK OF UNITY OF INVENTION**

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

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☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



**LACK OF UNITY OF INVENTION  
SHEET B**

Application Number  
EP 12 00 2227

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claim: 1

Rotor/stator device capable to disable and reconfigure  
itself on the basis of information provided by internal  
sensors

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2. claim: 2

Rotor/stator device with internal power storage and power  
management

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3. claims: 3, 5

Rotor/stator device capable to send and receive power over  
communication lines

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4. claim: 4

Networked rotor/stator device

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27-08-2013

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
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			EP 0463643 A2	02-01-1992
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EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82